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September 5, 2012

Mr. Mark Nations
The Doe Run Company
P.O. Box 1633
Desloge, Missouri 63601

Re: Ambient Air Monitoring Report – Rivermines Site

Dear Mr. Nations:

Please find attached the Second Quarter 2012 “*Ambient Air Monitoring Report*” for The Doe Run Company at the Rivermines Sites, located near Park Hills, Missouri.

This report will include the following:

- **Glossary of Terms** – Listing of the abbreviations used for each parameter and unit.
- **National Ambient Air Quality Standards** – Lists the maximum allowable concentrations for the measured parameters.
- **Quarterly Missing Data Summary** – Listing of missing particulate run days.
- **Quarterly Data Summary** – Includes the averages of each monitored parameter, which relates to the federal standard.

Barr Engineering Company offers this report as an independent laboratory. This includes the weighing of filters, obtaining lead and cadmium analysis, compiling the data, and preparing the report. No interpretation of the data or analysis of the results is implied or intended. Should you have any questions regarding this report, please call.

Respectfully,

Richard J. Campbell, PE
Chemical Engineer
Senior Environmental Consultant

c: Ms. Kathy Rangen
Mr. Jason Gunter
Mr. Ty Morris

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Superfund

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Ambient Air Monitoring Report

***Rivermines
Park Hills, Missouri***

The Doe Run Company

Second Quarter 2012



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SUPERFUND DIVISION

Ambient Air Monitoring Report

***Rivermines
Park Hills, Missouri***

The Doe Run Company

Second Quarter 2012



***1001 Diamond Ridge Suite 1100
Jefferson City, MO 65109
Phone: (573) 638-5000
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GLOSSARY OF TERMS

$\mu\text{g}/\text{m}^3$	Micrograms per Cubic Meter
TSP	Total Suspended Particulate
PM ₁₀	Particulate Matter - 10 Microns or Less
mmHg	Millimeters of Mercury

NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

PM ₁₀ – Particulate Matter	24-Hour*	Annual Maximum	150 $\mu\text{g}/\text{m}^3$
Lead	Calendar Quarter	Arithmetic Mean	1.5 $\mu\text{g}/\text{m}^3$

TSP (Total Suspended Particulate) – There are no Federal Standards that apply solely for TSP.

*This standard must be exceeded more than once a year to constitute a violation.

QUARTERLY MISSING DATA SUMMARY

TSP/Lead Summary

All Sites – 5/28/2012 – Holiday – No samples scheduled
Big River Site #4 QA – 6/7/2012 – INVALID – Mechanical Failure
All Sites – 6/28/2012 – Training – No samples scheduled

PM₁₀ Summary

Big River #4 – 4/21/2012 – INVALID – Mechanical Failure

Particulate and Lead Quarterly Summary



TSP and Lead Concentration Summary

Rivermines Park Hills, Missouri

2012

Date	TSP Big River #4 ($\mu\text{g}/\text{m}^3$)	TSP South #1 ($\mu\text{g}/\text{m}^3$)	TSP North #2 ($\mu\text{g}/\text{m}^3$)	TSP East #3 ($\mu\text{g}/\text{m}^3$)	LEAD Big River #4 ($\mu\text{g}/\text{m}^3$)	LEAD South #1 ($\mu\text{g}/\text{m}^3$)	LEAD North #2 ($\mu\text{g}/\text{m}^3$)	LEAD East #3 ($\mu\text{g}/\text{m}^3$)
4/2/12	78	57	47	63	0.040	0.014	0.012	0.017
4/3/12	31	30	33	31	0.007	0.007	0.020	0.007
4/4/12	33	34	32	32	0.012	0.025	0.008	0.010
4/5/12	35	38	30	24	0.010	0.080	0.000	0.006
4/6/12	22	24	21	21	0.006	0.009	0.000	0.000
4/9/12	36	59	28	23	0.033	0.282	0.000	0.011
4/10/12	37	86	26	33	0.038	0.284	0.000	0.039
4/11/12	44	54	34	33	0.029	0.142	0.009	0.016
4/12/12	51	37	45	43	0.008	0.008	0.000	0.013
4/13/12	38	40	40	44	0.000	0.000	0.000	0.000
4/16/12	24	48	16	23	0.008	0.176	0.000	0.048
4/17/12	18	18	12	14	0.010	0.019	0.000	0.006
4/18/12	22	25	14	17	0.009	0.019	0.000	0.008
4/19/12	37	41	32	35	0.020	0.008	0.017	0.009
4/20/12	21	15	14	13	0.000	0.000	0.000	0.000
4/23/12	28	64	20	20	0.024	0.174	0.012	0.018
4/24/12	38	36	32	41	0.017	0.035	0.074	0.046
4/25/12	52	63	41	44	0.016	0.110	0.017	0.009
4/26/12	48	73	45	95	0.020	0.345	0.000	0.041
4/27/12	35	31	33	33	0.012	0.011	0.000	0.017
4/30/12	24	20	19	19	0.012	0.006	0.020	0.011
Monthly Average	36	43	29	33	0.016	0.083	0.009	0.016

QUARTERLY LEAD NAAQS LIMIT: $1.5 \mu\text{g}/\text{m}^3$

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



TSP and Lead Concentration Summary

Rivermines Park Hills, Missouri

2012

Date	TSP Big River #4 ($\mu\text{g}/\text{m}^3$)	TSP South #1 ($\mu\text{g}/\text{m}^3$)	TSP North #2 ($\mu\text{g}/\text{m}^3$)	TSP East #3 ($\mu\text{g}/\text{m}^3$)	LEAD Big River #4 ($\mu\text{g}/\text{m}^3$)	LEAD South #1 ($\mu\text{g}/\text{m}^3$)	LEAD North #2 ($\mu\text{g}/\text{m}^3$)	LEAD East #3 ($\mu\text{g}/\text{m}^3$)
5/1/12	34	35	32	37	0.000	0.000	0.053	0.029
5/2/12	31	30	30	44	0.011	0.007	0.052	0.076
5/3/12	24	21	19	38	0.009	0.000	0.021	0.073
5/4/12	32	38	27	38	0.020	0.026	0.018	0.049
5/7/12	21	22	16	17	0.011	0.021	0.000	0.000
5/8/12	42	44	15	21	0.044	0.120	0.000	0.016
5/9/12	35	64	15	20	0.040	0.231	0.012	0.027
5/10/12	39	38	21	27	0.019	0.144	0.000	0.029
5/11/12	30	30	27	26	0.017	0.024	0.010	0.016
5/14/12	43	117	34	41	0.036	0.665	0.040	0.050
5/15/12	45	65	34	41	0.036	0.102	0.025	0.071
5/16/12	57	171	83	49	0.024	0.743	0.024	0.039
5/17/12	47	44	38	37	0.027	0.076	0.010	0.016
5/18/12	42	49	34	39	0.020	0.034	0.019	0.030
5/21/12	25	74	21	23	0.007	0.322	0.000	0.014
5/22/12	39	48	27	28	0.035	0.129	0.009	0.015
5/23/12	31	30	30	31	0.006	0.007	0.032	0.000
5/24/12	95	95	99	105	0.044	0.020	0.303	0.034
5/25/12	54	48	46	48	0.022	0.010	0.028	0.014
5/29/12	51	60	21	24	0.060	0.171	0.012	0.011
5/30/12	32	35	25	21	0.021	0.069	0.019	0.024
5/31/12	27	35	14	15	0.021	0.040	0.000	0.000
Monthly Average	40	54	32	35	0.024	0.135	0.031	0.029

QUARTERLY LEAD NAAQS LIMIT: $1.5 \mu\text{g}/\text{m}^3$

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



TSP and Lead Concentration Summary

Rivermines Park Hills, Missouri

2012

Date	TSP Big River #4 ($\mu\text{g}/\text{m}^3$)	TSP South #1 ($\mu\text{g}/\text{m}^3$)	TSP North #2 ($\mu\text{g}/\text{m}^3$)	TSP East #3 ($\mu\text{g}/\text{m}^3$)	LEAD Big River #4 ($\mu\text{g}/\text{m}^3$)	LEAD South #1 ($\mu\text{g}/\text{m}^3$)	LEAD North #2 ($\mu\text{g}/\text{m}^3$)	LEAD East #3 ($\mu\text{g}/\text{m}^3$)
6/1/12	31	84	13	16	0.039	0.150	0.014	0.013
6/4/12	70	68	25	30	0.053	0.186	0.007	0.020
6/5/12	38	37	26	34	0.018	0.062	0.000	0.025
6/6/12	37	65	23	29	0.014	0.270	0.009	0.038
6/7/12	39	35	26	37	0.020	0.055	0.007	0.039
6/8/12	38	34	28	37	0.033	0.062	0.042	0.074
6/11/12	21	43	21	20	0.012	0.132	0.013	0.000
6/12/12	50	60	26	27	0.045	0.179	0.006	0.011
6/13/12	40	32	33	25	0.021	0.042	0.009	0.012
6/14/12	51	29	29	28	0.057	0.011	0.021	0.013
6/15/12	33	29	29	36	0.017	0.008	0.090	0.017
6/18/12	32	29	39	33	0.000	0.000	0.256	0.009
6/19/12	27	23	29	27	0.007	0.000	0.203	0.016
6/20/12	29	26	45	31	0.012	0.000	0.281	0.011
6/21/12	59	69	26	34	0.098	0.203	0.053	0.050
6/22/12	33	34	24	27	0.031	0.047	0.009	0.010
6/25/12	50	55	35	42	0.028	0.260	0.011	0.024
6/26/12	40	38	25	36	0.028	0.018	0.000	0.018
6/27/12	35	36	32	50	0.016	0.014	0.026	0.029
6/29/12	72	75	40	65	0.069	0.085	0.014	0.096
Monthly Average	41	45	29	33	0.031	0.089	0.054	0.026
Quarterly Average	39	47	30	34	0.024	0.102	0.031	0.024
QUARTERLY LEAD NAAQS LIMIT: 1.5 $\mu\text{g}/\text{m}^3$								

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

PM₁₀ Quarterly Summary



Particulate Summary

Rivermines
Park Hills, Missouri

2012

Date	PM ₁₀ Big River #4 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ South #1 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ North #2 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ East #3 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ NAAQS ($\mu\text{g}/\text{m}^3$)
3-Apr	21	17	14	18	150
6-Apr	12	14	11	11	150
9-Apr	19	42	13	16	150
12-Apr	20	18	15	17	150
15-Apr	40	34	33	34	150
18-Apr	11	13	9	10	150
21-Apr	INVALID	9	10	8	150
24-Apr	14	13	11	14	150
27-Apr	25	39	20	30	150
30-Apr	15	14	14	14	150
Monthly Average	20	21	15	17	

Please see the particulate analysis sheets for explanations of missing or invalid data.

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Particulate Summary

Rivermines
Park Hills, Missouri

2012

Date	PM ₁₀ Big River #4 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ South #1 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ North #2 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ East #3 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ NAAQS ($\mu\text{g}/\text{m}^3$)
3-May	10	9	8	14	150
6-May	21	22	19	20	150
9-May	16	24	9	11	150
12-May	19	18	17	18	150
15-May	20	28	16	19	150
18-May	24	23	23	21	150
21-May	18	30	15	16	150
24-May	39	34	31	31	150
27-May	19	20	20	19	150
30-May	15	30	12	11	150
Monthly Average	20	24	17	18	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.



Particulate Summary

Rivermines Park Hills, Missouri

2012

Date	PM ₁₀ Big River #4 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ South #1 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ North #2 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ East #3 ($\mu\text{g}/\text{m}^3$)	PM ₁₀ NAAQS ($\mu\text{g}/\text{m}^3$)
2-Jun	9	8	8	7	150
5-Jun	16	24	12	14	150
8-Jun	21	24	19	19	150
11-Jun	18	43	13	14	150
14-Jun	20	16	17	14	150
17-Jun	14	12	12	11	150
20-Jun	14	13	19	13	150
23-Jun	18	15	14	15	150
26-Jun	18	26	14	14	150
29-Jun	33	41	31	36	150
Monthly Average	18	22	16	16	
Quarterly Average	19	22	16	17	

Please see the particulate analysis sheets for explanations of missing or invalid data.

Note: A summary of the Big River #4 sampler data is also included, because it was part of the QA plan.

Quarterly Quality Control



120 East Davis Street
P.O. Box 30
Fayette, MO 65248-0030

Phone: (660) 248-1911
Fax: (660) 248-1921
<http://www.inovatia.com>

ANALYSIS REPORT

Client Information:

Barr Engineering
5150 W. 76th Street
Edina, MN 55439

Project Name: Quarterly QC Samples
Quarter-Year: Q2-2012
Sample Matrix: Filter

Analysis Method: 40 CFR §58 Appendix A/40 CFR §50 Appendix G

Lab Number	Observed Value	Actual Value	Difference (+/-)	% Difference (%)	% Difference Average (%)	Standard Deviation	95% Probability	95% Probability	Analyst-Date
	(µg Pb/Filter)	(µg Pb/Filter)					Limit (+)	Limit (-)	
20A	19.646	20	-0.354	-1.770%					DS-04/27/12
20B	19.230	20	-0.770	-3.850%					DS-05/29/12
20C	19.871	20	-0.129	-0.645%	-2.088%	1.626%	1.099%	-5.275%	DS-06/29/12
60A	57.654	60	-2.346	-3.910%					DS-04/27/12
60B	59.187	60	-0.813	-1.355%					DS-05/29/12
60C	57.147	60	-2.853	-4.755%	-3.340%	1.770%	0.130%	-6.810%	DS-06/29/12

Submitted by:

Jennifer Vandelicht
Quality Assurance

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07/03/2012

Date

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